

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of :

Stefan WILHELM

Group Art Unit: Unassigned

Serial No.: Unassigned

Examiner: Unassigned

Filed: March 6, 2002

For: HEAT EXCHANGER

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to initial examination, please amend the above-identified application as follows:

IN THE CLAIMS:

Please amend the claims as follows:

1. (Amended) In a heat exchanger, comprising at least one heat exchanger block, insulating vessel which surrounds the heat exchanger block and securing means for securing the heat exchanger block hanging in the insulating vessel, the improvement wherein the heat exchanger block (1) is arranged movably in the insulating vessel.
2. (Amended) A heat exchanger according to Claim 1, said heat exchanger block having a lower end and wherein, the lower end of the heat exchanger block (1) can move in at least two spatial directions.
3. (Amended) A heat exchanger according to Claim 1, wherein the heat exchanger block (1) is suspended in such a manner that it can move freely above its center of gravity.

4. (Amended) A heat exchanger according to Claim 1, wherein the heat exchanger comprises at least two, heat exchanger blocks (1).

5. (Amended) A heat exchanger according to Claim 4, wherein the heat exchanger blocks (1) have feed and/or discharge lines which lead into a common connection line.

6. (Amended) A heat exchanger according to Claim 1, wherein the securing means have joints (5, 7).

7. (Amended) A heat exchanger according to Claim 6, wherein the securing means have two axes of rotation (6, 9) which lie perpendicular to one another.

8. (Amended) A heat exchanger according to Claim 1, wherein the securing means have a first element (3), which is fixedly connected to the heat exchanger block (1), and a second element (4), which is articulately connected to the first element (3), the second element (4) being articulately secured in the insulating vessel.

9. (Amended) In a low-temperature air fractionation plant comprising a principal heat exchanger and at least one fractuating column, the improvement wherein the principal heat exchanger is a heat exchanger according to Claim 1.

Please add the following new claims:

--10. A heat exchanger according to Claim 2, wherein the heat exchanger block (1) is suspended in such a manner that it can move freely above its center of gravity.

11. A heat exchanger according to Claim 4, comprising at least three heat exchanger blocks.--

REMARKS

The purpose of this Preliminary Amendment is to eliminate multiple dependent claims in order to avoid the additional fee. Applicants reserve the right to reintroduce claims to canceled combined subject matter.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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Date: March 6, 2002
IWM/pdr

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims

The claims have been amended as follows:

1. (Amended) Heat In a heat exchanger, having comprising at least one heat exchanger block, ~~and an~~ insulating vessel which surrounds the heat exchanger block, and securing means ~~are provided~~ for securing the heat exchanger block hanging in the insulating vessel, ~~characterized in that~~ the improvement wherein the heat exchanger block (1) is arranged movably in the insulating vessel.
2. (Amended) Heat A heat exchanger according to Claim 1, ~~characterized in that~~ said heat exchanger block having a lower end and wherein, the lower end of the heat exchanger block (1) can move in at least two spatial directions.
3. (Amended) Heat A heat exchanger according to Claim 1 ~~or 2, characterized in that,~~ wherein the heat exchanger block (1) is suspended in such a manner that it can move freely above its ~~centre~~ center of gravity.
4. (Amended) Heat A heat exchanger according to ~~one of Claims 1 to 3,~~ Claim 1, wherein the heat exchanger comprises at least two, ~~preferably at least three~~ heat exchanger blocks (1).
5. (Amended) Heat A heat exchanger according to Claim 4, ~~characterized in that~~ wherein the heat exchanger blocks (1) have feed and/or discharge lines which lead into a common connection line.
6. (Amended) Heat A heat exchanger according to ~~one of Claims 1 to 5,~~ Claim 1, wherein the securing means have joints (5, 7).

7. (Amended) Heat A heat exchanger according to Claim 6, ~~characterized in that~~ wherein the securing means have two axes of rotation (6, 9) which lie perpendicular to one another.

8. (Amended) Heat A heat exchanger according to ~~one of Claims 1 to 7,~~ characterized in that Claim 1, wherein the securing means have a first element (3), which is fixedly connected to the heat exchanger block (1), and a second element (4), which is articulately connected to the first element (3), the second element (4) being articulately secured in the insulating vessel.

9. (Amended) ~~Use of a heat exchanger according to one of Claims 1 to 8 in~~ In a low-temperature air fractionation plant ~~in particular as the principal heat exchanger of a low-temperature air fractionation plant~~ comprising a principal heat exchanger and at least one fractuating column, the improvement wherein the principal heat exchanger is a heat exchanger according to Claim 1.

Claims 10-11 have been added.